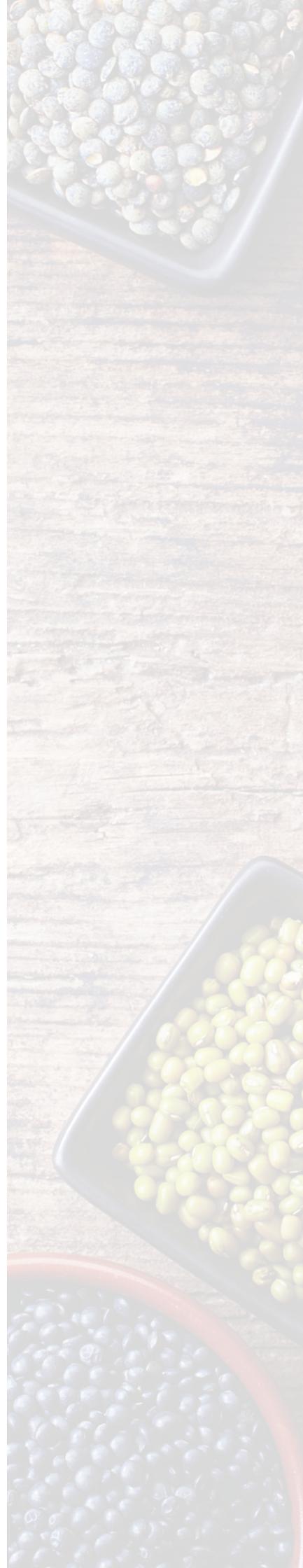
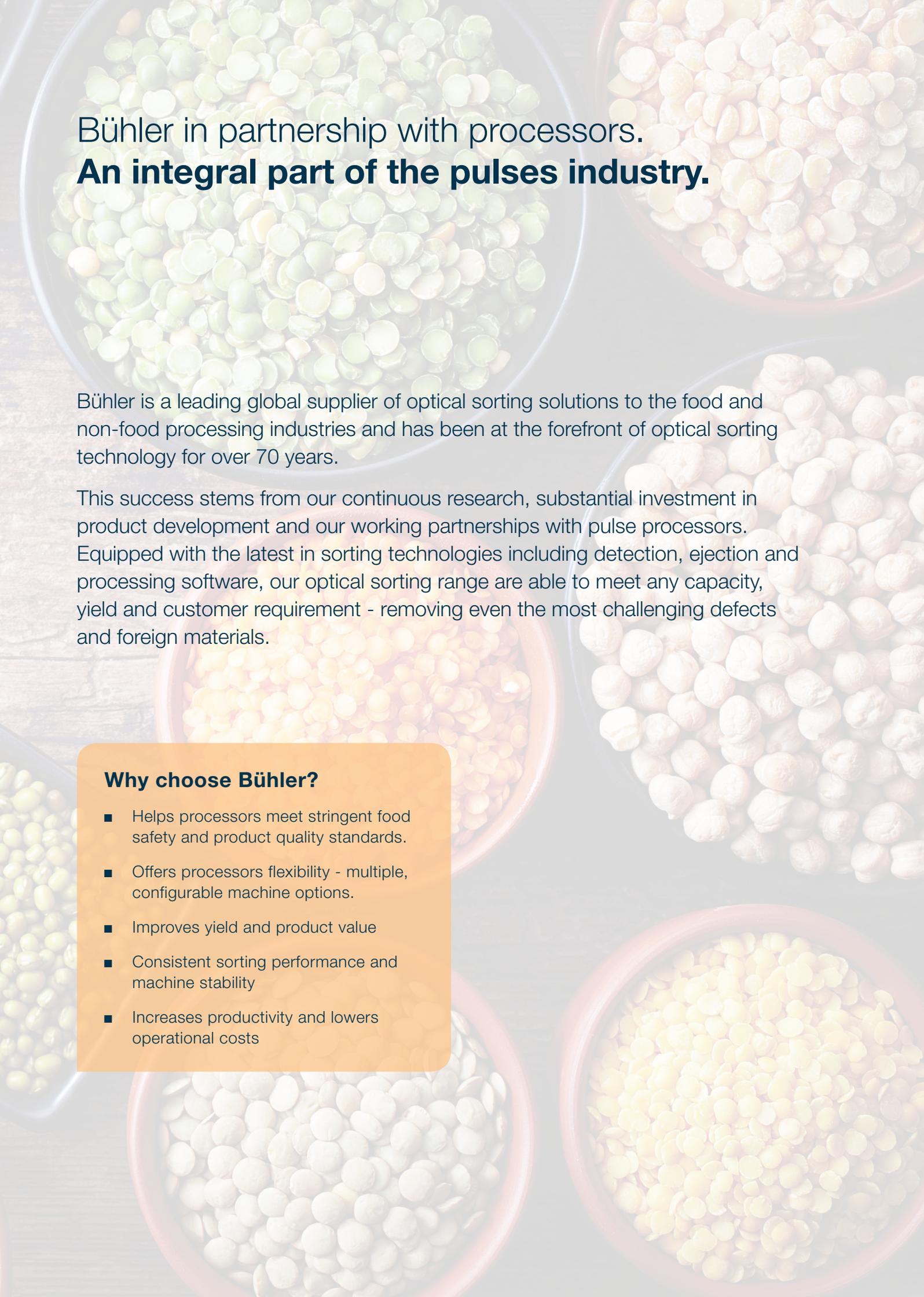


Pulses
Sorting Solutions.

Pulses Sorting from Bühler. **Equipment and Solutions.**

- 1 Typical Pulses Sorting Examples
- 2 Pulses Sorting Solutions
- 3 SORTEX A MultiVision™
- 4 SORTEX B MultiVision™
- 5 SORTEX® Innovative Technologies
- 6 Model Variants and Specifications
- 7 SORTEX Customer Care





Bühler in partnership with processors. **An integral part of the pulses industry.**

Bühler is a leading global supplier of optical sorting solutions to the food and non-food processing industries and has been at the forefront of optical sorting technology for over 70 years.

This success stems from our continuous research, substantial investment in product development and our working partnerships with pulse processors. Equipped with the latest in sorting technologies including detection, ejection and processing software, our optical sorting range are able to meet any capacity, yield and customer requirement - removing even the most challenging defects and foreign materials.

Why choose Bühler?

- Helps processors meet stringent food safety and product quality standards.
- Offers processors flexibility - multiple, configurable machine options.
- Improves yield and product value
- Consistent sorting performance and machine stability
- Increases productivity and lowers operational costs

1 Typical pulses sorting examples. Your most challenging sort, conquered.

■ Accept ■ Reject



Chickpeas

A combination of Bühler inspection system using multiple wavelengths of visible light technology and broadband LED lighting detects subtle discoloration such as yellow, white and dark brown delivering a uniformed appearance and superior quality end product.

Lentils

A combination of enhanced feed system and Bühler SmartEject™ technology allows accurate detection of defects especially during high capacity sorting delivering high yields with low rejection of good grains. Also suitable for a variety of whole and split pulses such as dry beans, pigeon peas, green and black gram applications.

Beans

Our range of sorters are equipped with proprietary detection technologies; PROfile™ on the SORTEX A MultiVision™ and PROsize™ on the SORTEX B MultiVision™, to ensure processors can maintain consistent end product quality on shape, colour and sizes.



Chickpeas



Whole lentils



Pigeon peas



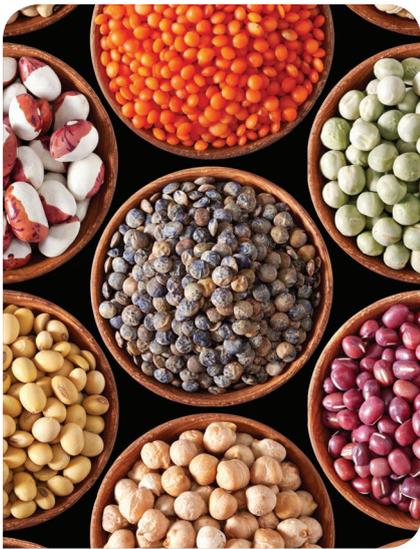
Split pigeon peas



Split lentils



Red beans



Unhusled whole pulses

Designed for flexibility and scalability, SORTEX range of optical sorters are capable of sorting multiple varieties of whole pulses at varying capacity requirements to match a customer's end product requirements. Efficiently removing discoloured, splits, spots and foreign materials such as sticks, stones and mud balls.



Hulled (split or whole)

SORTEX range of optical sorters effectively removes subtle discolouration and challenging close colour defects such as green, brown, yellows, chalky and skin spots to deliver premium end product quality.



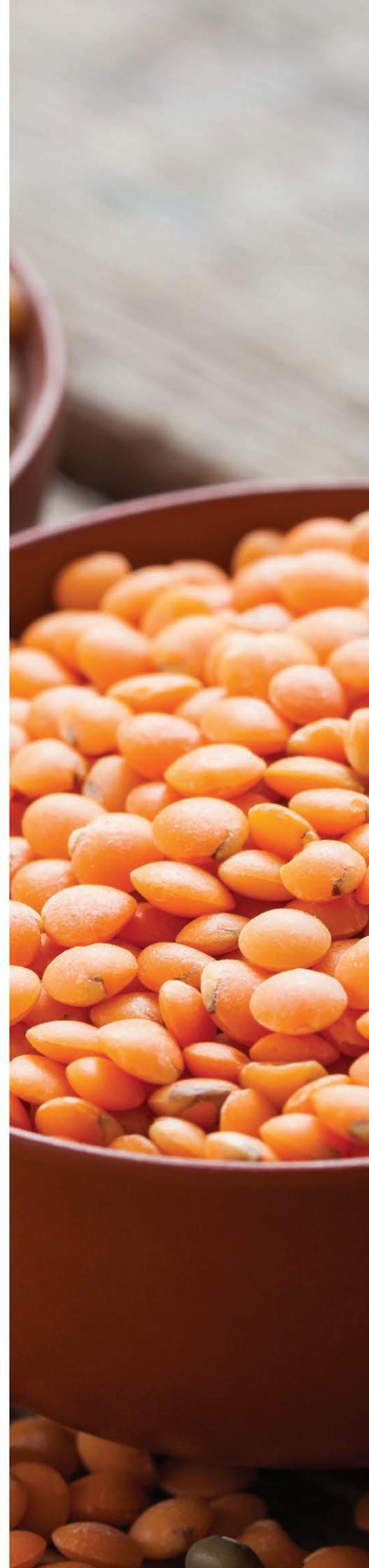
Yellow Moong Bean



Green Bean



Black Bean



3 SORTEX A MultiVision™ Sophisticated optical sorting technologies.

Our most sophisticated range of sorting solutions, equipped with the latest technologies and software, including PROfile™ technology - a three-in-one colour, shape and size detection software, offering processors absolute control over quality of your pulses to match any market requirement - maximising pulse value.



Features advanced vision, lighting and ejection system, this state-of-the-art optical sorter provides the ultimate sorting performance with InGaAs technology as an option for even more challenging applications, delivering superior premium quality pulses with concentrated rejects.

- Consistent high sorting performance
- Balanced, stable performance
- Optimising productivity, lowering cost of ownership

4 SORTEX B MultiVision™ Optimising conventional sorting.

Trusted Bühler built technologies - enhanced and updated. Offering processors an assurance on performance; reliability and consistency. Ideal for mainstream, everyday sorting.

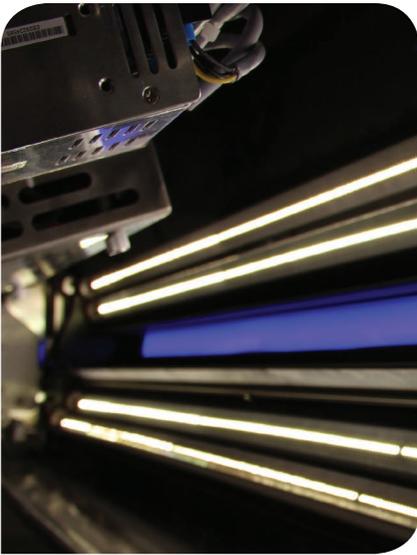


Designed for mainstream, everyday sorting, features a combination of new and improved technologies in lighting, ejection and inspection systems and includes SORTEX PROsize™ to sort under or over sized grains including broken.

- Enhance day-to-day sorting performance and high capacity processing
- Consistent and stability
- Simplified ease-of-use

4 SORTEX® Innovative Technologies. Mastering the most complex sort.

From Competence Centres around the world and optical sorting headquarter in London, our researchers, engineers and product developers work in partnership with our customers to develop proprietary technologies that are at the forefront of the optical sorting industry - since 1947.



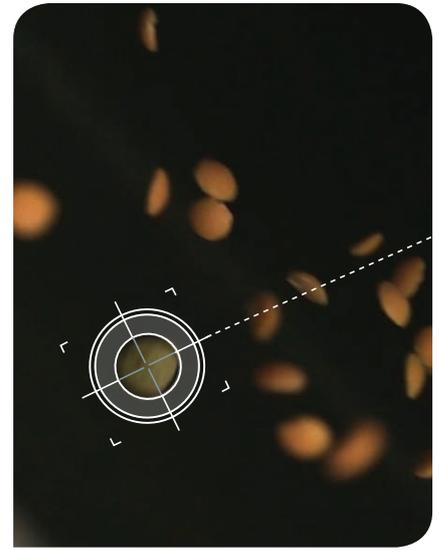
Inspection system with Broadband LED Lighting

A combination of high-resolution customised cameras, designed and built in-house and Broadband LED Lighting, delivers the colour recognition needed to detect defects and foreign material, within the entire visible spectrum.



SORTEX ProSortX™ operating system

Fresh new interface that is modern, intuitive to use and responsive - simplified operating system with flexibility and better controls, no need for complex operator training.



SmartEject™ technology

Precision built for high speed ejection, SmartEject™ fires precisely at the whole defect, efficiently removing unwanted product. Its easy serviceability and long life span also lowers the cost of ownership of SORTEX optical sorters.



PROfile™* (detection) technology

A combination of three dynamic technologies to perform the most complex sorting tasks.

PROshape™

Remove defects that are the same colour as good products; leaves, sticks, stones etc.

PROsize™**

For delicate grains not ideal for mechanical graders; separates under or over sized and broken

PROcolor™

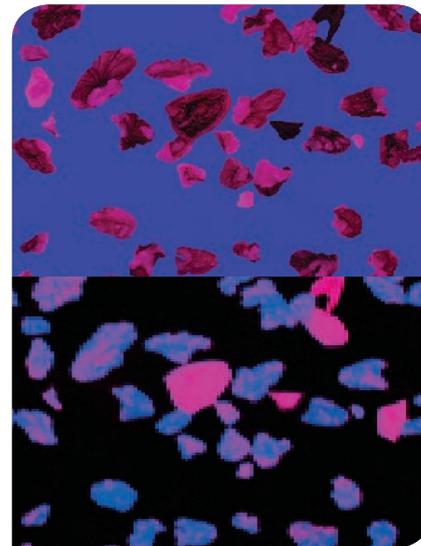
Analyses multiple colour variation as well as individual blemishes offering flexibility to set own product quality.



Balanced and Stable sorting performance

Maximise yield, capacity and energy wastage during a secondary or tertiary sort. By optimising modules/chutes for a balanced and stable sorting performance, this helps to avoid unnecessary re-circulation of grains.

Achieved through a combination of proprietary software including Auto-Calibration and Product Tracking - ensures consistent performance throughout whilst removing the need for laborious manual set-up.



InGaAs Technology*

Originally designed for military satellite application, InGaAs technology can detect defects which cannot be seen in the visible spectrum. By utilising infrared technology, the system reads light reflection as well as colour registration to offer precise detection of unwanted materials, for example foreign materials which are of the same colour as your pulse product. Available as an option on the SORTEX A MultiVision™, for challenging pulse applications.

* SORTEX A MultiVision™

** SORTEX B MultiVision™

5 Product specifications. Technical details.

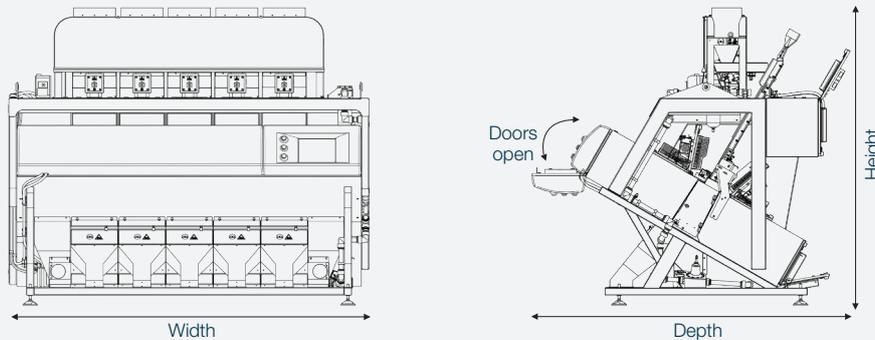
Product options

Contact your local representative for a full list of product features specifications.

■ Standard ● Optional

Features at a glance	SORTEX A MultiVision™	Features at a glance	SORTEX B MultiVision™
Flexible Colour Cameras	■	High-resolution Colour Cameras	■
PROfile™ Technology	■	PROfile™ Technology	-
PROshape™ Technology	■	PROshape™ Technology	-
PROsize™ Technology	■	PROsize™ Technology	■
PROcolour™ Technology	■	PROcolour™ Technology	-
InGaAs Technology	●	InGaAs Technology	-
LED Lighting	■	LED Lighting	■
Climate Control	●	Climate Control	-
Remote Access	●	Remote Access	●
SORTEX ProSortX™	■	SORTEX ProSortX™	■
CE Certification	■	CE Certification	■
ATEX	●	ATEX	-
Available modules and chutes	1 - 5	Available modules and chutes	1 - 5

Dimensions, air and power requirements



Machine	Width mm	Depth (Doors Open) mm	Depth (Doors Shut) mm	Height mm	Weight* kg	Typical air requirements (l/s)* 72-102 psi (5-7 bar)	Typical Power consumption (kW)** (200-240 V; 50/60 Hz single phase)
A1 B1	1000	2333	1708	2088	500	8	1.5
A2 B2	1788	2333	1708	2088	927	16	2.3
A3 B3	1788	2333	1708	2088	970	24	3.1
A4 B4	2387	2333	1708	2088	1107	32	3.4
A5 B5	2387	2333	1708	2088	1150	40	4.5

* Unpacked weight. Figures will vary based on machine product options.

* Figures will vary based on contamination levels.

** Figures will vary based on machine product options.

6 SORTEX Customer Care. Secure tomorrow's profits today.

Bühler customers have access to a network of over 140 Sales and Service offices worldwide offering customisable service packages, stock on spares and upgrade kits, to ensure your optical sorters perform at maximum possible efficiency. Training courses and Competence Centres offering application and product trials are also available at regional sites and local offices around the world.

TotalCare™

Create a customised service package, composed of individual service features from the list below. From maintenance visits, downtime cover to refurbishments and preventative - basic to fully comprehensive. Designed to ensure your optical sorters perform at its maximum performance.

TotalCare Protect

Minimise Downtime

Based on an agreed number of annual visits, Bühler engineers will replace key wear parts, provide consultation and advise on future maintenance requirements.

TotalCare Perform

Performance Optimisation

Aspiring to keep downtime to under 24 hours, sorters will be safeguarded against any failed components. Bühler engineers will ensure first-rate performance once the repair is carried out.

TotalCare PerformPLUS

Ejector Refurbishment

Making certain that sorters are running at peak performance, ejectors are replaced when the stipulated life-cycle is reached. Performance is maintained for the future.

TotalCare Anyware

Supervised Functionality

Provides a working record of operational information as well as reports that enable machine health to be monitored and preventative maintenance scheduled.

TotalCare AnywarePRO

Remote Access and Assistance

Sorter performance can be viewed remotely by customers and Bühler engineers. Faults can be diagnosed and performance optimised in any location using a laptop, tablet or smart phone.

All contract options are available for variable durations.

SORTEX® Spare Parts Promise

Customer satisfaction is our priority. This is why we strive to deliver both spare and wear parts within 48 hours - maximising your profitability.

SORTEX® Upgrade Kits

Bühler have designed various upgrade kits, for existing customers who are seeking to upgrade sorters with an additional module, new technology features or processing software.

SORTEX® Spare Parts

Various kits to suit different optical sorters are available for customers who wish to have spare parts available on site.

Optical Sorting Training Courses

Available from various regional Bühler locations. From operator to management, basic to advance, speak to your local representative for course selection and availability.



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